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ABSTRACT

The last of eight related documents, this booklet is part of a series of papers presented at the 1978 National Right to Read Conference examining issues and problems in literacy. In examining the impact of the back to basics movement on literacy, the booklet cites evidence that the movement suffers from a lack of consensus on the meaning of literacy. It then develops a concept of literacy, using two perspectives to analyze the concept's two interdependent strands: the first referring to learning the language by eye as well as by ear, and the second referring to learning new vocabulary and concepts found in print and new skills for processing printed information. (HTH)

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LITERACY: MEETING THE CHALLENGE

The Basic Skills Movement: Its Impact on Literacy

Thomas Stitch

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The material in this booklet was presented at the National Right to Read Conference, Washington, D.C., May 27-29, 1978. The material was edited by the staff of the National Institute of Advanced Study which conducted the Conference under contract from the U.S. Office of Education.

FOREWORD

A major goal of the Right to Read Program has been to disseminate information about the status of literacy education, successful products, practices and current research finding in order to improve the instruction of reading. Over the years, a central vehicle for dissemination have been Right to Read conferences and seminars. In June 1978, approximately 350 Right to Read project directors and staff from State and local education and non profit agencies convened in Washington, D.C. to consider Literacy: Meeting the Challenge.

The conference focused on three major areas:

- examination of current literacy problems and issues
- assessment of accomplishments and potential resolutions regarding literacy issues; and
- exchange and dissemination of ideas and material on successful practices toward increasing literacy in the United States.

All level of education, preschool through adult, were considered.

The response to the Conference was such that we have decided to publish the papers in a series of individual publications. Additional titles in the series are listed separately as well as direction for ordering copies.

SHIRLEY A. JACKSON
Director
Basic Skills Program

LITERACY: MEETING THE CHALLENGE

A Series of Papers Presented at the
National Right to Read Conference
May 1978

Assessment of Reading Competencies
Donald Fisher

How Should Reading Fit Into a Pre-School Curriculum
Bernard Spodex

Relating Literacy Development to Career Development
Allen B. Moore

Private Sector Involvement in Literacy Effort
"The Corporate Model for Literacy Involvement"
Lily Fleming
"Reading Alternative: Private Tutoring Programs"
Daniel Bassill
"Building Intellectual capital: The Role of Education in Industry"
Linda Stoker

Who is Accountable for Pupil Illiteracy?
Paul Tractenberg

Publishers' Responsibilities in Meeting the Continuing Challenge of Literacy
Kenneth Komoski

Can Public Schools Meet the Literacy Needs of the Handicapped?
Jules C. Abrams

The Basic Skills Movement: Its Impact on Literacy
Thomas Sticht

Literacy: Competency and the Problem of Graduation Requirements
William G. Spady

Projections In Reading
"Teaching Reading in the Early Elementary Years"
Dorsey Hammond
"Adult Literacy"
Oliver Patterson
"Reading Programs: Grades Seven Through Twelve"
Harold Herber

SUMMARY

Overview

Reports of widespread illiteracy, even among high school graduates, have fueled the back-to-basics movement, epitomized by minimal competency testing. First citing evidence that the movement suffers from a lack of consensus on the meaning of literacy, this paper goes on to develop a concept of literacy, using two perspectives to analyze its two interdependent strands. It concludes by drawing some implications for the back-to-basics movement.

The Lack of Consensus

Though well-intentioned, the many activities to develop minimum literacy standards suffer from confusion about the meaning of literacy and from ignorance about the uses of literacy skills in everyday life. The author presents several types of evidence that no consensus on the meaning of literacy exists:

- Minimal competency tests differ widely from State to State.
- The Adult Performance Level study, the basis for functional literacy assessment in some states, extends the concept of literacy well beyond its traditional bounds.
- Devices to assess literacy vary, some measuring grade level achieved and other skills mastered.
- The frequency and timing of assessments differ among States.
- Some assessments serve different purposes from others. Skills-oriented tests administered in the early grades are used diagnostically, whereas functional literacy tests administered in the eleventh grade as a prerequisite for graduation are used to ascertain whether the general literacy education students have received can be transferred or generalized to literacy tasks they will encounter as adults.

The author questions the efficacy of remedial training for students who fail functional literacy tests.

The Meaning of Literacy

Because the meaning attributed to literacy will determine the types of programs and research initiated to combat illiteracy, a clear concept of literacy is essential. The author analyzes the nature of literacy from two perspectives, remarking their implications for assessment and instruction in the process.

The developmental perspective emphasizes the affinity between oral and written language skills, viewing the former as a specialization of inborn information-processing capacities and the latter as a subsequent, parallel specialization. One significant implication of this model is that literacy skills are initially a second way of using the oral language system that the child knows. It follows that a child's auding comprehension will surpass his reading comprehension for sometime. Observing that no study has determined how long the gap persists, the author presents various evidence that it may endure for as long as seven or eight years, and he infers that the process of learning to read consists of two phases: a relatively brief phase in which decoding skills are acquired and a longer phase in which they are practiced until they become automatic. He notes that adult literacy programs cannot, therefore, in the full sense teach reading.

The problem-solving perspective emphasizes the special properties that distinguish written from oral messages: they are more or less permanent, and they are spatially arrayed. A variety of literacy tasks are contingent upon these properties, including previewing and reviewing, syntopical reading, research, analysis, and graphic and tabular representation. It is the mastery of these tasks, as well as reading and writing, that constitutes literacy.

Implications

Achieving literacy involves two major, interdependent strands:

- Learning to comprehend as well by eye as one can by ear, or reading; and
- Learning both the new vocabulary and concepts encounted in the printed materials one uses while learning to read and the new skills for processing information that depend upon the permanence and spatiality of written messages.

For the back-to-basics movement, particularly minimal competency testing, this analysis implies that:

- Each individual's oral skills should set his/her initial minimum competency levels for reading and writing;
- Students need opportunities to develop conceptual knowledge about the kinds of topics encountered in teachers' speech and textbooks and also opportunities to learn new words;
- Through the fourth or fifth grade, children can, if necessary, learn many of the words and concepts required to pass reading comprehension tests through the oral mode, and their decoding skills may improve in the process;
- Remedial training must begin early enough to allow for several years of practice; and
- Students must be brought to appreciate the functions of written language and graphic representation as tools for communication and thought.

THE BASIC SKILLS MOVEMENT

Introduction

Today, there is much concern that many of our high schools may be graduating thousands of students whose literacy skills are so low that they will be barely able to function in society. This concern is indicated in stories in the popular press that refer to court cases in which students with high school diplomas suddenly discover that they cannot read well enough to get a decent job, so they sue their school for not properly educating them. Additionally, reports from various surveys, national assessments, and major government studies report that millions of adults, including young adults right out of high school, are "functionally illiterate"; they cannot fill out forms, use maps, read reference books well, write a check correctly, and so on. And as for those students who are functionally literate, the results of many tests for selecting students for higher education have shown a precipitous decline over the last decade.

Fueled by the many reports of student incompetence in the basic skills, even after twelve years of education, an incendiary "back-to-basics" movement has spread across the nation that pits private citizens, school boards, and legislators against the ensconced school establishment. This is evidenced by the rapid growth of private and public "alternative" schools of a fundamentalist nature that stress discipline, dress codes, respect for teachers and school authorities and, of course, the basics.

The epitome of the back-to-basics movement is minimal competency testing, in which private citizens, Federal and State legislators, and State education officials have attempted to compel local school districts to emphasize the teaching of basic skills to all students. To date, two-thirds of the nation's States have initiated some form of minimal competency testing, with many requiring that students meet minimal competency standards for graduation from high school.

Confusion About the Nature of Literacy

Though the many activities to develop minimum literacy standards are well intentioned, they suffer from the lack of a very clear understanding of what is meant by literacy, and from a lack of information about the ways literacy skills are used in various life-role activities outside the school. Evidence abounds to indicate that there is considerable lack of consensus as to what

literacy means, how best to assess competency in literacy, and how to provide education for literacy development.

Regarding what literacy means, disagreement is evidenced by the various testing programs established in the States conducting minimal competency testing. Some States test only reading; some reading, writing, computation; some include content areas such as consumer economics, social studies, science and other school-oriented content areas, while some have introduced so-called "life-skill," "functional literacy," "survival literacy skills" or other such nonschool, life-role oriented competency tests.

Federal projects, too, evidence the uncertainty about the meaning of literacy. For instance, the widely known Adult Performance Level (APL) study, conducted for the United States Office of Education, and which is now serving as the basis for functional literacy assessment in some States, conceived of literacy as "composed of an application of communication (reading, writing, speaking, listening), computation, problem solving, and interpersonal relations skills to knowledge of occupations, consumer economics, community resources, government and law, and health"! (Northcutt, et al, 1975, p. 44) In this case literacy is not restricted to the traditional skills of reading and writing, but is extended to include oral language skills and even interpersonal skills! Furthermore, in a major shift from considering literacy as dealing with *process skills* (reading, writing, etc.) that are generally regarded as content-free, the APL definition of literacy includes five general areas of knowledge.

The confusion surrounding the understanding of what literacy means reveals itself inevitably in disagreement about how best to assess competency in literacy. For some, the use of standardized tests that state competency in terms of grade levels is preferred. Thus, for instance, a 9th grade level of achievement of reading, writing, and mathematics may be required for high school graduation. For others, assessment in terms of skills "mastered" is preferred. This involves the development of test items that represent skill areas such as reading, writing, and computing and the setting of standards for "mastery," such as getting 80 percent correct, 100 percent correct, or so forth.

The uncertainty about the meaning and nature of literacy reveals itself not only in the variation in the assessment devices, but also in the variation in the number of assessments given and when. Some states assess competency at several grade levels (e.g., all grades; or 3, 6, 9, 11, etc.), some at two grade levels (e.g., 8th and 12th grades); and some officially assess for minimal competency only at grade 11.

The decisions about how and when to assess literacy skills reflect, at times, decisions about literacy education. For instance, the early use of skill oriented tests are frequently advocated because it is thought that the latter are diagnostic, whereas grade level scores are not, and the early detection of skills

learning problems can lead to compensatory activities at an early age, thus preventing problems in the later grades.

On the other hand, the introduction of "functional literacy" tests at the eleventh grade level, as a prerequisite for high-school graduation, reflects the notion that, even though such adult life-role tasks are not explicitly taught in the school curriculum, the "general literacy" instruction should be sufficient to make it possible for students to successfully perform on the functional literacy tests. In this case, the latter are not diagnostic instruments, but rather tests of the transferability or generalizability of general literacy education given in the schools to the literacy tasks adults encounter outside the school.

However, despite the fact that the functional literacy tests are not diagnostic, there is frequently talk of providing remedial literacy training to students who fail the functional literacy tests. Such training is proposed for the types of adult role tasks represented on the functional literacy tests, e.g., reading and understanding a telephone directory, filling out a job application form, reading a wiring diagram for a household appliance, etc. Usually this type of remedial training is advocated with little thought as to the generalizability of the training. Yet, if the "general literacy" or "basic skills" education offered in the schools was not learnt, or if learnt, did not transfer or generalize to the functional literacy tasks on the minimal compentency test, then there is reason to question whether or not adult life-role literacy training will generalize beyond the specific tasks taught in the remediation program. This is a particular concern for eleventh-hour remediation programs that hope to develop, in brief periods of time, the competence needed for successfully performing a wide range of literacy tasks involved in a variety of adult life roles.

Toward a Better Understanding of Literacy

It seems clear, to me, that the way in which we conceptualize the nature of literacy, and its relationship to the basic skills and to knowledge content areas, will determine the types of training and education programs we develop, and the types of research programs we pursue to contribute to the solution of literacy problems. For this reason we need to have as clear a conceptualization of literacy as we can, one which will reflect the inherent nature of literacy as a human capacity for acquiring and using knowledge.

In the remainder of this paper I will discuss the nature of literacy from two perspectives. First, I will focus on literacy as the development of capacities for using written language as a substitute for spoken language. This perspective is based upon the simple developmental model which I believe represents what happens to the "typical person who becomes literate in our literate society." This point of view emphasizes the similarities among oral and written language skills and the common base of knowledge which these skills express or use to comprehend in communication.

From the second point of view, I will emphasize the differences between oral and written language and discuss the manner in which the written language serves as a visual memory tool and makes possible a variety of literacy tasks that help in problem solving in situations ranging from the mundane, e.g., putting a sign on a bus, to the esoteric, e.g., casting an astrological chart!

In the course of discussing literacy from a developmental perspective and from a problem solving perspective, I will comment on implications for competency assessment and instructional design. It is to be understood that this is not a completely comprehensive and conclusive discussion of these issues; rather it is my hope that this will be viewed as one contribution to a much needed conversation.

The Developmental Model: Figure 1 presents the developmental model of literacy in schematic form. Briefly, the model formally recognizes what common sense tells us, and that is that, when a child is first born, he or she is born with certain Basic Adaptive Processes for adapting to the world around them. These BAP include certain information processing capacities for acquiring, storing, retrieving, and manipulating information. This stored information processing capacity forms a cognitive content which in its earlier forms is prelinguistic (Figure 1; Stage 1). After sometime though, the child develops skills for receiving information representing the cognitive content of others, and for representing his own cognitive content to others. This is accomplished through the specialization of the information and processing activities of listening, looking, uttering, and marking (Figure 1; Stage 2). The specialization is one of use of these skills for the express purpose of externally representing one's own thoughts for others to interpret, and forming internal representations of the external representations of others' thoughts that they make. More specifically though, the particular specialization of present concern is the representation of thoughts via the use of conventionalized signs (words) and rules for sequencing these signs (syntax) in speaking and auding (listening to speech in order to language) (Figure 1; Stage 3).

Finally, if the child is in a literate society, he may acquire the specialized looking and marking skills of reading and writing. For present purposes, we presume that we are talking about the "typical" case in our literate society, and assert that children typically learn to read and write (Figure 1; State 4).

A further aspect of the developmental model, is that it holds that the development of the oracy skills of speaking and auding follows and is built upon a prelinguistic cognitive content and conceptualizing ability. Said plainly, the child must have something to think about before the need for a language ability for sharing thoughts can and needs to arise. It is important that it be understood that this early, prelinguistic cognitive content, or knowledge, is what will form the foundation for the acquisition of new knowledge over the lifetime of the person. Thus concern for the child's

FIGURE 1

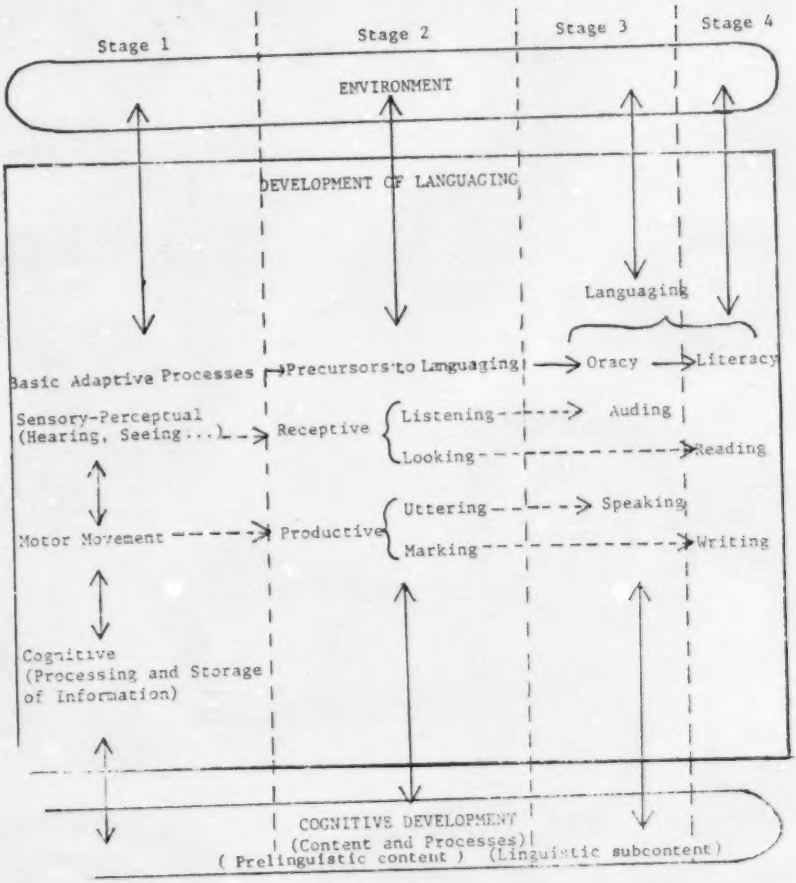

FIGURE 1. Overview of the Developmental Model of Literacy

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acquisition of literacy skills to obtain survival knowledge, must be traced back to the child's prelinguistic acquisition of knowledge, and later his acquisition of knowledge of and via the oral language (learning by being told, Carroll, 1968). We see, then, that knowledge itself is the primary "tool skill" for acquiring further knowledge—whether by oracy or by literacy skills.

A final aspect of the model is that it asserts that the literacy skills utilize the same conceptual base (cognitive content; conceptualizing ability; knowledge) as is used in auding and speaking, and utilizes the same signs and rules for sequencing those signs as is used in the oral language skills for receiving and expressing conceptualizations. Notice that this is an assertion based upon the developmental sequence, i.e., the literacy skills are built upon existing oracy skills as the end of a developmental sequence. This does not mean that once literacy skills are acquired, that they do not contribute anything new to knowledge or language capability; clearly they do. What is asserted is that when the literacy skills are initially acquired, they are essentially to be construed as a second way of utilizing the same language system the child uses in speaking and auding. Presumably this is what Jenkins and Liberman (1972) refer to as being able to use language by eye as well as it is used by ear.

Closing the Language by Ear and by Eye Gap: A fundamental hypothesis derivable from the developmental model is that a child's ability to comprehend language by auding will surpass his ability to comprehend language by reading during the early years of school until the reading skills are acquired, at which time ability to comprehend language by auding and by reading should become equal.

Though this seems to me like a very basic relationship to be explored if one is interested in understanding the acquisition of ability to language by eye as well as by ear, it turns out that there is, to my knowledge, absolutely no research specifically designed to find out (1) how well nonliterates can comprehend language by ear, and (2) how long they require to learn to comprehend language by eye as well as they do by ear. In other words, how long, typically, does it take to "crack the code?" Some (cf., Chall, 1973) have speculated that it takes about the first three grades; others (Smith, 1975, p. 188) assert that learning to read may take, typically, only a few weeks (for 15-year-old adolescents)!

In the absence of well-designed studies which might reveal something of the closing of the "gap" between languaging by ear and by eye, Sticht, et al. (1974) reviewed some 44 studies which measured how well subjects at different grade levels could comprehend messages presented in spoken versus written form. Figure 2 summarizes this review and shows, for each grade level the proportion of studies in which auding was found superior to ($A > R$); equal to ($A = R$) or inferior to ($A < R$) reading. It should be cautioned that these studies represent a wide variety of methods, messages, difficulty levels, response modes, etc.

With these concerns in mind, the data of Figure 2 suggests that, clearly, children have not learned to comprehend by reading as well as they can comprehend by auding by the third grade. Learning to language by eye as well as one can language by ear may require as long as seven years or thereabouts, since it is at the seventh grade level where one has a fifty-fifty chance of finding studies showing auding>reading, and studies showing auding≤reading.

Though, as mentioned, these data must be regarded with caution, there is some interesting additional circumstantial evidence that the learning to decode period may last as long as seven or eight years. One piece of evidence comes from the study of eye movement records which indicate that it is not until the eighth grade that the adult pattern of eye movements is typically achieved (Tinker, 1965, pp. 81-84). A second piece of evidence suggesting that learning to decode may take quite a while to fully develop comes from the work of Durrell and Brassard (1969). These researchers developed a test to measure the "gap" between a person's ability to comprehend language by auding and by reading. The test includes four parts: vocabulary knowledge assessed via spoken and written modes, and comprehension of brief paragraphs presented in spoken and written forms. The data for a national norming sample (N = 22,247) indicate that auding and reading performance on the paragraph comprehension tests became equal during the sixth grade, while auding performance surpassed reading performance on the vocabulary knowledge subtests through the eighth grade. On the vocabulary and paragraph tests combined, auding and reading scores became equal in the eighth grades.

Comparisons of silent reading rates to typical auding rates provide additional evidence to suggest that it is around the seventh or eighth grade that the reading decoding process typically achieves the same degree of automaticity as is involved in auding. Data from the National Assessment of Education Progress: Reading Rate (see Sticht, et al., 1974, p. 95) indicate that the silent reading rate for 13-year-olds (seventh and eighth graders) is around 175 wpm (words per minute). Earlier, Foulke and Sticht (1969) reported that the average oral reading aloud rate of professional newscasters and readers for the blind is around 175 wpm. If this latter figure is regarded as a typical auding rate (because it is the rate professionals read aloud to be auded), then the silent reading rate of 13-year-olds closely matches the auding rates required when auding newscasters and similar formal spoken presentations. This might be construed as suggesting that reading and auding are operating with comparable degrees of automaticity of decoding at this age/grade level.

These various, tenuous pieces of evidence suggest that one aspect of learning to read can indeed be considered as learning to language by eye as well as one can by ear. This is evidenced by the data that show that ability to comprehend by auding occurs first in the developmental sequence, and the person who acquires reading skill acquires the ability to comprehend by reading what he could earlier comprehend only by auding. Furthermore, this evidence suggests that, on the average, this aspect of learning to read may

FIGURE 2

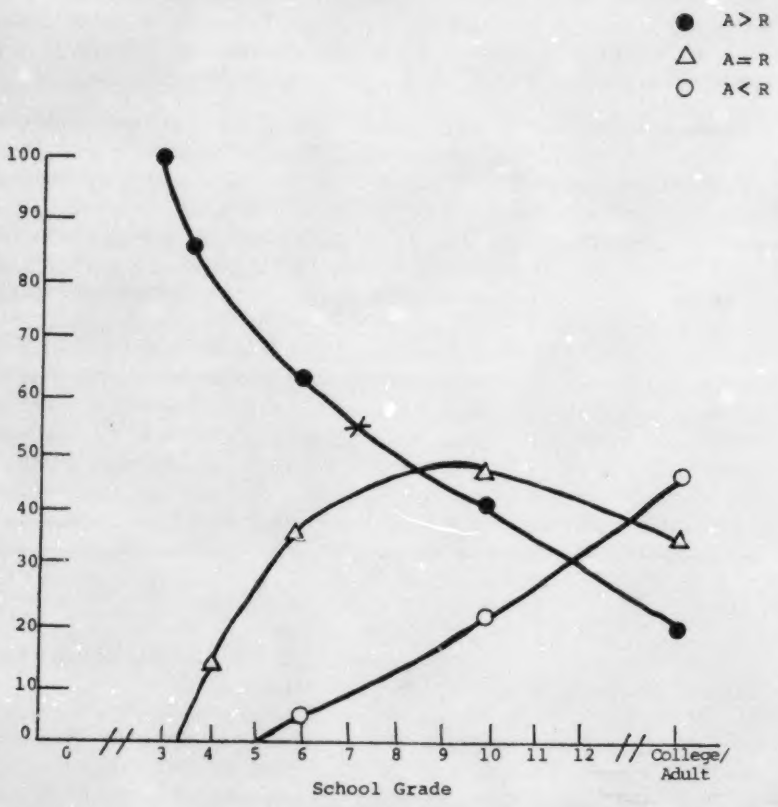

Figure 2. Comparison of auding and reading performance at five schooling levels.

stretch from the first grade to the sixth, seventh, or eighth grades. While it is not clear what exactly is occupying all this time, especially beyond the third or fourth grade, which reading specialists have traditionally considered the time frame for the "learning to read stage," it seems likely that this large time span is necessary for the child to develop full automatization of the reading decoding skill (LaBerge and Samuels, 1973).

If this analysis is correct, then perhaps learning to decode may be divided into two phases; in phase one the child acquires the basic know-how of decoding while in phase two the decoding skills are practiced and overlearned to the point of becoming completely automatic. This might correspond to the rapid growth and plateaus found in the development of many psychomotor skills. In this case, the rapid growth might correspond to the traditional "learning to read state" (first three years of schooling) while the plateau would correspond to the development of full automaticity of decoding during the fourth to seventh or eighth years. (It should be noted that the data of Figure 2 suggest the possibility of even a third phase of learning to read, the stage in which some people appear to become more effective at getting information from the texts than they are from spoken messages, as is the case for average high school seniors and collegians. This seems to represent a situation in which one is better able to language by eye than by ear, and may correspond to the phase in psychomotor skill development which occurs after the plateau phase. The NAEP data reported above suggests that most people do not acquire the post-plateau level of skill).

If, as suggested earlier, the development of automaticity ordinarily requires three to five years beyond the third grade for the "typical" child growing up on our K-12 school curriculum, then we must consider that the development of comparable automaticity will require considerable time for adults who are learning to read. But adults in literacy training programs are typically interested in rapid acquisition of reading skills; and indeed numerous adult literacy programs exist which purport to "teach reading" very rapidly. And, as reported earlier, some researchers seem to think that adolescents might learn to read in ". . . a few weeks" (Smith, 1975, p. 188). Perhaps the phase one skills of learning to read may be acquired fairly rapidly, but full automaticity would seem to require extensive practice in reading over an extended period of time.

Clearly, the data presented here are only exploratory and anything but definitive; nonetheless I believe they should cause us to consider further the problems, instructional and operational, of developing and assessing full automaticity of decoding in programs for high school students who do not pass minimal competency tests of literacy skills.

Learning to Use the Printed Medium for Literacy Task Performance

As discussed above, one aspect of becoming literate is to learn to use the printed code with the same efficiency as one uses the spoken code in auding, i.e., to read efficiently.

A second aspect of achieving literacy involves learning to use the printed medium for performing a variety of tasks which demand a variety of information processing skills in addition to reading. Many of the tasks will require writing; most will require repeated reading of some materials; and still others require reading while examining nonlinguistic displays. It is in the performance of various tasks in which written materials are used that the unique properties of writing, and the printed media in general, appear to come to contribute most to the development of "literacy," as contrasted with "reading."

The unique aspects of written messages which set them apart from spoken messages are (1) they are more-or-less permanent; and (2) they are spatially arrayed. Because written messages are permanent (i.e., not occurring on-line as in a live speech) and arranged spatially (both on a page and as a volume of pages when in book form) they can be *surveyed* so that readers can mobilize such related knowledge as they may have to relate the information in the text to what they know (i.e., to comprehend, Smith, 1975). Because the text is more-or-less permanent, it is *referable*, i.e., the reader can flip back and forth to preview and review; the text can be returned to at a later date for rehearsal of what was previously read.

The reader may have recognized the foregoing as a paraphrase of Robinson's (1961) well-known reading study skills method, the SQ3R procedure. This procedure calls for first *surveying* a chapter (or other segment of writing), and noting headings, italicized words, topic sentences, etc., to form a general idea about what is in the material to be learned. Then the student *questions* himself about what is likely to be found in the reading; then the student *reads* the material, *recites* to himself the major points encountered and how they relate to the questions he formed; and finally, at a later date, the student *reviews* the chapter once again. Clearly, this procedure reflects the nature of text as spatially arrayed and more-or-less permanent

It is only because texts are pre-existing and permanent to a degree that the very complex literacy tasks such as referred to by Adler and Van Doren (1972) as *syntopical* reading can be performed. Such tasks involve the type of activites as are engaged in when preparing a "state-of-the-art" review; or when preparing a scholarly text, such as Huey's (1908) text on reading. Such tasks may take years to perform, and dozens of books may be skimmed, surveyed, noted, read, reread, consulted, examined, and dismissed, etc. This type of literacy activity requires writing, editing, rewriting, discussions with people about the ideas being worked on, and much thinking!

At a considerably less grand level of performance, students may be called upon to write reports of what they have read; they may have to prepare a term paper for which they do considerable reading; they may have to prepare outlines, summaries, "300 word" abstracts, and the like about what they have read. In all of these cases, the reading materials are more than likely available

during the production of the report. And it may be that only by attempting to prepare the report that the student becomes fully aware of the range of information in the materials being read. Thus in the course of writing, and after examining one's writing, the significance of what was previously read but discounted may be appreciated. In certain cases, the analysis, and reasoning which may go into trying to write, may transfer to reading, in which case the reader may detect previously undetected inconsistencies in what was previously read, though to my knowledge we have no clear-cut evidence regarding the improvement of reading comprehension by writing (see Stotsky, 1975, for a review of literature in this area).

A particularly unique aspect of reading, as distinct from auding, arises from the fact that the printed word can be arrayed spatially. Thus we find figures and graphs with labeled axes and internal parameters; charts and tables; and illustrations with "call-outs" for identifying parts of the illustration. At times comprehension of what is being read is contingent upon being able to comprehend the accompanying figure, table, etc. At other times, performance of some task, such as repairing a motor vehicle, may require the reading of language arrayed in a special "trouble-shooting" table. In such cases, if the structural properties of the table are not well-understood, reading comprehension may be disrupted, especially if it is necessary to combine information from different parts of the table. Again, we may find that the use of a particular mode of representing thoughts may cause a change in a person's ability to comprehend what he reads. For instance, the use of row x column figures for sorting out treatments in analysis of variance designs may transfer to an almost habitual casting of problems that are read about into similar row x column representations in order to comprehend the various effects and their interactions being discussed. Again, though, I know of no research along these lines.

Though there are certainly other tasks people perform with printed materials, I think the ones discussed above are sufficient to make the point that much of the acquisition of literacy is not simply learning to read, i.e., learning a substitute language system for the oral language system. Rather, a large part of learning to be literate is learning how to perform the many tasks made possible by the unique characteristics of printed displays, their permanence and spatiality. It may be that it is impossible to sort out the differential contributions to literacy of such activities as studying, writing, studying what one has written and revising, and learning to use graphic information, tables, and various visual representations which combine writing with other visual data. But it is certainly the case that people must be able to perform all of these tasks involving reading if they are to be considered literate.

Summary and Discussion

In our rush back-to-the-basics we need to give thought to what we are

rushing to. In this paper I have attempted to open a dialogue about the nature of literacy so that activities in the hopes of improving basic literacy skills, activites such as minimal competency testing, might be based on as sound an understanding as we can obtain.

In response to the question of "What does it mean to achieve literacy?," I have suggested in this paper that there are at least two major, interdependent learning "strands".

1. One is learning to language by eye as well as one can by ear; this is what is meant by learning to read. Further, I have presented evidence to suggest that this aspect of learning may involve two "stages": the learning of the knowledges and skills required to decode printed words into language, and the subsequent practice of this skill until automaticity is acquired.
2. The second major strand overlaps with the first and refers to learning the new vocabulary and concepts found in the printed materials one uses in learning to read, and includes the learning of new skills for processing information from printed displays based on the unique properties of such displays, their permanence and spatiality.

Some of the implications of this analysis of the back-to-basics movement, and particularly that aspect of the movement that involves minimal competency testing, are:

1. An initial goal for an assessment program might be to determine if a person can comprehend by eye as effectively *and efficiently* as he/she can by ear. This permits the individual to set his or her own initial "minimum competency level" with respect to reading, based on his or her compentency in oral comprehension.
2. An initial goal for writing might be for one to be able to express in the written language any idea one can express in the spoken language.
3. Because both oral and written language are limited by what a person knows, it is important that students be given opportunities to develop conceptual knowledge about the types of events and experiences that are talked about in teachers' speech and authors' textbooks. Much of this knowledge can be obtained through observation on the student's part, but the student needs to learn words to describe and evaluate his or her observations. These words can be learned through the oral mode and then should be available to improve reading comprehension when decoding skills are learned.
4. Because words and concepts can be learned through the oral language, it may be possible to teach students with low reading skills much of the content knowledge they need to know to pass reading comprehension tests at the fourth or fifth grades and

beyond through oral discussion, while at the same time working to improve student reading skills in the decoding area to produce automaticity in decoding. To the extent that comprehension facilitates decoding, by offering context clues to word recognition, then the building of language vocabulary and conceptualizing skills through the oral language may facilitate not only comprehension but also decoding.

5. If the development of automaticity in reading skills may require several years of practice, then we need to rethink programs of minimal competency testing that start at the eighth or eleventh grades, especially the latter. With such testing programs, it is dubious that remedial training of such duration to fully establish automaticity can be implemented.
6. The fact that the written language is a visual memory tool ought to be understood more widely so that students can come to appreciate the many services such a tool can serve. They need also to become aware of the functions of such conceptual tools as maps, graphs, flow charts, classification tables, and the like. As it is, students are sometimes taught that those things are "out there" to be learned about, rather than being taught that these displays are produced by a literate mind for problem solving purposes. Being literate means that one takes command of the written language as both a tool for communication and a tool for thought.

FOOTNOTE

[1]The ideas and opinions expressed herein are those of the author and do not represent the opinions and/or policies of the National Institute of Education or the Department of Health, Education, and Welfare.

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